(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date 28 July 2005 (28.07.2005)

PCT

(10) International Publication Number WO 2005/068974 A1

(51) International Patent Classification?: 33/36

G01N 21/21,

(21) International Application Number:

PCT/AU2005/000061

(22) International Filing Date: 20 January 2005 (20.01.2005)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

2004900263

20 January 2004 (20.01.2004) AU

(71) Applicant (for all designated States except US): COM-MONWEALTH SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANISATION [AU/AU]; Limestone Avenue, Campbell, ACT 2612 (AU).

(72) Inventors; and

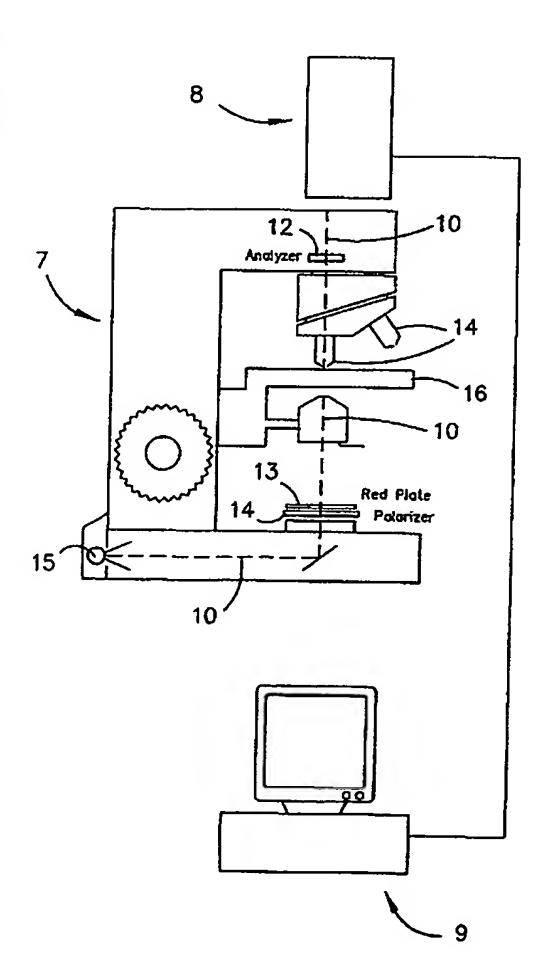
(75) Inventors/Applicants (for US only): LUCAS, Stuart

[AU/AU]; 19 Denman Street, Geelong East, Victoria 3219 (AU). GORDON, Stuart [AU/AU]; 14 Wattle Court, Jan Juc, Victoria 3228 (AU).

- (74) Agent: GRIFFITH HACK; 509 St Kilda Road, Melbourne, Victoria 3004 (AU).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,

[Continued on next page]

(54) Title: METHOD AND APPARATUS FOR TESTING FIBRES



(57) Abstract: A method for measuring the maturity or cell wall thickening of a sample of cellulosic fibre including the steps of: a) exposing the sample of fibre to polarized light; b) capturing one or more images of the sample through crossed polar lenses and a compensator plate so that the image(s) include interference colours from the sample; and c)conducting computer analysis on the image(s) captured in step b) to determine the maturity or degree of cell wall thickening of the cellulosic fibre by comparing the image(s) to reference colour interference data. The apparatus for carrying out the method includes an optical light path (10) for exposing the sample of fibre to polarized light, an image capturing means (8), and a computer (9) for conducting image analysis to determine fibre maturity or the degree of cell wall thickening.

WO 2005/068974

WO 2005/068974 A1

ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

- with international search report